Chesterfield WaterTrends
Low Gradient Stream Habitat Assessment Form

Site ID:		**Stream Name:**
Latitude:		**Longitude:**
Watershed:		
Date:	**Time:**	**Investigators:**
Weather last 72 hours		
Description of Site Location		
Description of 100 meter assessed		
Predominant Surrounding Land Use		
Average Stream Width:		**Average Stream Depth:**
Stream Velocity (measured or defined as slow, moderate, or fast):		
Other Notes:		

Instructions:

1. Select 100-meter stretch to be evaluated. You may find it helpful to split the 100 meters up into easily definable sections for evaluation. Note the top and bottom of your stretch to be evaluated.
2. Review the 10 habitat parameters that you will be evaluating in this assessment.
3. Walk or otherwise visually inspect the entire 100-meter stretch to be evaluated. You may find it helpful to sketch your site on the graph paper provided, making note of the riffle areas, pools, runs, glides, and other features (log jams/debris, etc)
4. Begin the habitat assessment. You may want to use the graph paper to help estimate percentages needed to make the assessment. You may also want to use a process of elimination – eliminating the condition categories that do not describe your site.
5. Add all of the sub scores together to get a final score at the bottom of page 4.

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(Modified wording and metric scores from Plafkin et al. 1989)

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Site ID:		**Stream Name:**		
Latitude:		**Longitude:**		
Date:	**Time:**	**Investigators:**		
Habitat Parameter	**Condition Category**			
	Optimal	**Suboptimal**	**Marginal**	**Poor**
1. Epifaunal Substrate/ Available Cover (attachment sites for macro-invertebrates and overhead cover for fishes)	Greater than 50% stable habitat; mix of snags, submerged logs, undercut banks, cobble or other stable habitat (logs and snags are not new fall).	30-50% mix of stable habitat; presence of additional substrate that may not yet be prepared for colonization.	10-30% mix of stable habitat; habitat availability less than desirable; substrate frequently disturbed or removed.	Less than 10% stable habitat; lack of habitat is obvious; substrate unstable or lacking.
SCORE	18	13	8	3
Comments:				
2. Pool Substrate Characterization	Mixture of substrate materials, with gravel and firm sand prevalent; root mats and submerged vegetation common.	Mixture of soft sand, mud, or clay; mud may be dominant; some root mats and submerged vegetation present.	All mud or clay or sand bottom; little or no root mat; no submerged vegetation.	Hard-pan clay or bedrock; no root mat or vegetation.
SCORE	18	13	8	3
Comments:				
3. Pool Variability	Even mix of large-shallow, large-deep, small-shallow, small-deep pools present.	Majority of pools large-deep; very few shallow.	Shallow pools much more prevalent than deep pools.	Majority of pools small-shallow or pools absent.
SCORE	18	13	8	3
Comments:				
4. Sediment Deposition	Little or no enlargement of islands or point bars and less than 20% of the bottom affected by sediment deposition.	Some new increases in bar formation, mostly from gravel, sand or fine sediment; 20-50% of the bottom affected; slight deposition in pools.	Moderate deposition of new gravel, sand or fine sediment on old and new bars; 50-80% of the bottom affected; sediment deposits at obstructions, constrictions, and bends; moderate deposition of pools prevalent.	Heavy deposits of fine material, increased bar development; more than 80% of the bottom changing frequently; pools almost absent due to substantial sediment deposition.
SCORE	18	13	8	3
Comments:				

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Habitat Parameter	Condition Category			
	Optimal	**Suboptimal**	**Marginal**	**Poor**
5. Channel Flow Status	Water reaches base of both banks, and minimal amount of channel substrate is exposed.	Water fills over 75% of the available channel; or less than 25% of channel substrate is exposed.	Water fills 25-75% of the available channel, and/or riffle substrates are mostly exposed.	Very little water in channel and mostly present as standing pools.
SCORE	18	13	8	3
Comments:				
6. Channel Alteration	Channel straightening or dredging absent or minimal; stream with normal pattern	Some channel straightening present, usually in areas of bridges; evidence of past channelization, i.e., dredging, (greater than past 20 yr) may be present, but recent channelization is not present.	Channel straightening may be extensive. Man-made materials – hard engineering, large rocks, cement channels, pipes, riprap, etc. present on both banks; and 40-80% of stream reach channelized and disrupted.	Banks covered with man-made materials including hard engineering, large rocks, cement channels, pipes, riprap, etc.; over 80% of reach channelized and disrupted. Instream habitat greatly altered or removed entirely.
SCORE	18	13	8	3
Comments:				
7. Channel Sinuosity	Channel is sinuous. The bends in the stream increase the stream length 3 to 4 times longer than if it was in a straight line. (Note - channel braiding is considered normal in coastal plains and other low-lying areas. This parameter is not easily rated in these areas.)	Channel is somewhat sinuous. The bends in the stream increase the stream length 2 to 3 times longer than if it was in a straight line.	Channel appears to have been somewhat modified and has low sinuosity. The bends in the stream increase the stream length 1 to 2 times longer than if it was in a straight line.	Channel is straight; waterway has been channelized for a long distance.
SCORE	18	13	8	3
Comments:				
8. Bank Stability (score each bank) Note: determine left or right side by facing downstream	Banks stable; evidence of erosion or bank failure absent or minimal. Less than 5% of bank affected.	Moderately stable; infrequent, small areas of erosion mostly healed over. 5-30% of bank in reach has areas of erosion.	Moderately unstable; 30-60% of bank in reach has areas of erosion.	Unstable; many eroded areas; "raw" areas frequent along straight sections and bends; obvious wearing away of bank; 60-100% of bank has erosional scars.
SCORE ____Left	9	6.5	4	1.5
SCORE ____Right	9	6.5	4	1.5
Comments:				

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Habitat Parameter	Condition Category			
	Optimal	**Suboptimal**	**Marginal**	**Poor**
9. Bank Vegetative Protection (score each bank)	More than 90% of the streambank surfaces and immediate riparian zone covered by vegetation, including trees, understory shrubs, wetland plants; vegetative disruption through grazing or mowing minimal or not evident.	70-90% of the streambank surfaces covered by vegetation but one class (trees, shrubs, grasses) of plants is not well represented.	50-70% of the streambank surfaces covered by vegetation; patches of bare soil or closely cropped vegetation common.	Less than 50% of the streambank surfaces covered by vegetation; disruption of streambank vegetation is very high; vegetation has been removed to 5 centimeters (or less) in height – ex. Mowed or grazed.
SCORE ____Left	9	6.5	4	1.5
SCORE ____Right	9	6.5	4	1.5
Comments:				
10. Riparian Vegetative Zone Width (score each bank riparian zone)	Width of riparian zone >18 meters; human activities (i.e., parking lots, roads, clear-cuts, lawns, or crops) have not impacted zone.	Width of riparian zone 12-18 meters; human activities have impacted zone only minimally.	Width of riparian zone 6-12 meters; human activities have impacted zone a great deal.	Width of riparian zone <6 meters: little or no riparian vegetation due to human activities.
SCORE ____Left	9	6.5	4	1.5
SCORE ____Right	9	6.5	4	1.5
Comments:				

TOTAL SCORE: _____

What does this mean?

- You can compare the total score to itself each year.
- You may also want to compare the habitat score of your site to the habitat score at a "pristine" stream within your watershed.
- General habitat conditions:
    - Total Score greater than 153 = Optimal Habitat Conditions
    - Total Score between 130 and 152 = Suboptimal Habitat Conditions
    - Total Score between 80 and 129 = Marginal Habitat Conditions
    - Total Score less than 80 = Poor Habitat Conditions

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